4.8 Infrastructure and Service Systems

SIGNIFICANCE CRITERIA

The project would have a significant effect on the environment if it would:

- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Have insufficient water supplies available from existing entitlements and resources, or need new or expanded entitlements
- Be served by a landfill with insufficient capacity to accommodate the project's solid waste disposal needs
- Violate federal, state, and local statutes and regulations related to solid waste
- Result in the failure to maintain acceptable service ratios, response times or other performance objectives for any of fire protection, police, health, school and park services

METHODOLOGY

This analysis was performed by evaluating available data, information, reports and personal communications. These materials are listed in Section 7.0, References and in Section 6.0, List of Preparers. No additional data collection or field investigations were performed.

IMPACT OVERVIEW

Project impacts on infrastructure and service systems would be less than significant with the implementation of the district heating system. The goal of the proposed action is to reduce dependence on the use of costly propane gas by the I'SOT community. Implementation of the proposed system would allow I'SOT to use renewable geothermal energy for space heating and water heating. This is a beneficial effect of the project.

EFFECTS OF THE PROPOSED PROJECT

Water

As detailed in Section 4.10, Socioeconomics, implementation of the proposed project would not result in an increase in population, and would therefore not cause an increase in potable water use.

Wastewater

As detailed in Section 4.10, Socioeconomics, implementation of the proposed project would not result in an increase in population, and would therefore not cause an increase in municipal wastewater generation. None of the geothermal effluent will be discharged to the existing wastewater treatment system at I'SOT. I'SOT has obtained an NPDES permit form the Central Valley Regional Water Quality Control Board for the discharge of geothermal effluent to the Pit River. The permit contains monitoring

and sampling conditions that I'SOT must comply with to insure that water quality would not be impaired by the discharge.

Make-up water will be drawn from the on-site groundwater well to replace the volume of hot water drawn for domestic use from the distribution pipelines. The use of this make-up water would not result in an increase in wastewater generation.

Stormwater

The construction of the mechanical building and the food service/laundry building would decrease the amount of permeable land on the project site. This increased area of impermeability would be insignificant compared to the area of permeable lands surrounding the buildings both on and around the project site.

Electricity

The combination of the 7.5 horsepower pump (hp) in the geothermal well and the 2.5 hp circulation pump would cause an increase in electricity demand for the I'SOT community. In year 2000, the Surprise Valley Electrification Company (SVEC) was consulted regarding these power needs associated with the mechanical and control building. In August 2000, SVEC installed an additional power pole to meet the proposed increased demand (Merrick 2002b).

Solid Waste

As detailed in Section 4.10, Socioeconomics, implementation of the proposed project would not result in an increase in population, and would therefore not cause an increase in municipal solid waste generation.

The granulated activated carbon (GAC) mercury removal system would generate mercury-contaminated GAC, which may be classified as hazardous waste. I'SOT has a service agreement with US Filter who will service the filters, change the carbon, and place the spent carbon into Department of Transportation certified drums. US Filter would take a sample and submit the spent carbon to a laboratory for mercury analysis to determine which reactivation or disposal method is most appropriate (King 2002a).

Carbon with sufficiently low mercury content would be sent to US Filter reactivation facilities. Low mercury content carbon would be sent to the US Filter West States non-hazardous reactivation facility in Red Bluff, California. Higher mercury content carbon would be sent to the US Filter West States hazardous reactivation facility in Parker, Arizona (King 2002b). These activities are part of normal business operations for US Filter and would not affect solid waste disposal services in Modoc County. Carbon with mercury content too high for acceptance at the US Filter West States reactivation facilities would need to be either landfilled or incinerated. If the carbon is classified as non-hazardous, it would be sent to the Canby Transfer Station, then to the Alturas Transfer Station, and then ultimately to the Lockwood Landfill near Reno, Nevada (Hironymous 2002a). Carbon considered hazardous would likely be sent to the Kettleman Hills Landfill, in Kettleman City, California (Hironymous 2002b; King 2000c). The Lockwood Landfill, operated by the Reno Disposal Company, has a projected lifespan of 23 years (Franchi 2002). The Kettleman Hills Landfill has a projected lifespan of 6 to 7 years, with an additional 300 acres permitted for future landfill use (Vasquez 2002). The proposed project would not have a significant impact on waste disposal capacity at either the Lockwood or Kettleman Hills landfills.

Emergency Services

As detailed in Section 4.10, Socioeconomics, implementation of the proposed project would not result in an increase in population, and would therefore not result in an increased demand for fire protection, police protection, health or educational services.

MITIGATION MEASURES

The effects of the proposed action would be less than significant. No mitigation is required.

EFFECTS OF NO ACTION ALTERNATIVE

If the project were not constructed due to lack of DOE funding, there would be no adverse effects related to infrastructure and services from Alternative B, the "No Action" alternative; however, the project could proceed without DOE funding contingent upon alternative funding, with effects from Alternative A potentially worse without DOE participation because no mitigation would be required (except NPDES required items). Without funding by DOE, I'SOT would not be reimbursed for costs resulting from permitting efforts, engineering consultation, and system installation costs. No data gathering system would be installed for DOE research and development (R&D) purposes.